AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route,~~ for use in the manufacture of a battery electrolyte, ~~characterized in that it comprises~~ comprising:

(a) at least one polyorganosiloxane (POS) (A) comprising siloxyl units of formula (I)

$$R^1_xR^2_yR^3_zSiO_{(4-x-y-z)/2} \quad (I)$$

in which formula the various symbols have the following meanings:

x, y and z are integers with $1 \leq x+y+z \leq 3$;

the R^1, R^2 and R^3 radicals are identical to or different from one another and represent an optionally substituted, linear or branched, C_1-C_{12} alkyl radical, an optionally substituted C_5-C_{10} cycloalkyl radical, an optionally substituted C_6-C_{18} aryl radical, an optionally substituted aralkyl radical or an $-OR^4$ radical where R^4 represents a hydrogen or a linear or branched alkyl radical having from 1 to 15 carbon atoms, and

~~with the conditions that~~ wherein the POS (A) comprises, per molecule:

_____ - at least 2 siloxyl units of formula (I), one of the radicals of which comprises a functional group of epoxy type (Epx) and optionally a functional group of ether type (Eth); and

_____ - at least one of the siloxyl units of formula (I) comprises at least one radical carrying a polyoxyalkylene (Poa) ether functional group;

(b) at least one electrolyte salt; and

(c) an effective amount of at least one cationic and/or radical photoinitiator, wherein said composition is polymerizable and/or crosslinkable by the cationic and/or radical route under irradiation and/or by (an) electron beam(s).

2. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that~~ wherein the composition further comprises at least one POS (B) of formula (II)

$$R^1_xR^2_yR^3_zSiO_{(4-x-y-z)/2} \quad (II)$$

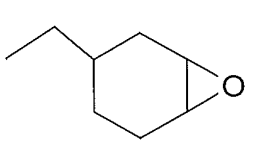
in which formula the various symbols have the following meanings:

x, y and z are integers with $1 \leq x+y+z \leq 3$;

the R^1, R^2 and R^3 radicals are identical to or different from one another and represent an optionally substituted, linear or branched, C_1-C_{12} alkyl radical, an optionally substituted C_5-C_{10} cycloalkyl radical, an optionally substituted C_6-C_{18} aryl radical, an optionally substituted aralkyl radical or an $-OR^4$ radical where R^4 represents a hydrogen or a linear or branched alkyl radical having from 1 to 15 carbon atoms;

with the condition that the POS (B) comprises, per molecule, at least 2 siloxyl units comprising a functional group of epoxy type (Epx) and optionally a functional group of ether type (Eth).

3. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that~~ wherein the radical carrying a functional group of epoxy type (Epx) which can optionally carry a functional group of ether type (Eth) is ~~chosen~~ selected from the following radicals:



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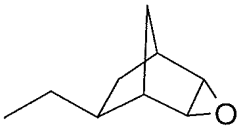

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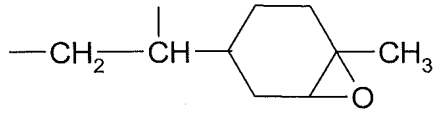
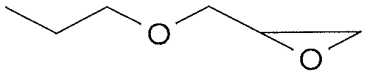


(III) (IV) (V)



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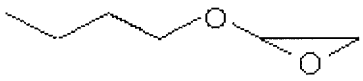
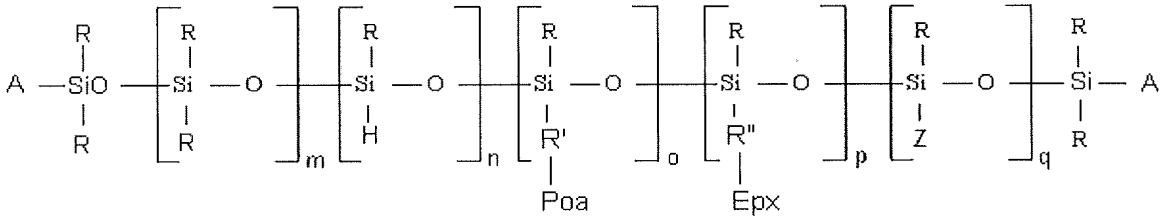


(VI) (VII)

4. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that~~ wherein the polyoxyalkylene (Poa) ether group is of polyoxyethylene ether and/or polyoxypropylene ether type.

5. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that~~ wherein the POS (A) is an essentially linear random or block copolymer ~~of following~~ having the mean general formula (VIII)



(VIII)

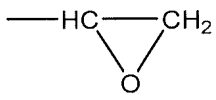
which can optionally comprise units of formula $RSiO_{3/2}$ (T);

in which formula:

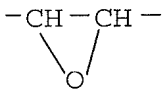
- the R symbols, which are identical to or different from one another, each represent an optionally substituted, linear or branched, C_1-C_{12} alkyl radical, an optionally substituted C_6-C_{18} aryl radical, an optionally substituted C_5-C_{10} cycloalkyl radical or an optionally substituted aralkyl radical;
- the Z symbols, which are identical to or different from one another, each represent a hydroxyl radical or a linear or branched alkoxyl radical having from 1 to 15 carbon atoms;
- the R' symbols, which are identical to or different from one another, each represent a radical comprising from 2 to 50 carbon atoms;
- the Poa symbols, which are identical to or different from one another, each represent groups of polyoxyalkylene ether type;

- the R" symbols, which are identical to or different from one another, each represent a radical comprising from 2 to 50 carbon atoms, which radical can optionally comprise functional groups of -O- ether type;

- the (Epx) symbols represent an epoxy functional group, this functional group being either present as ending of the R" hydrocarbon chain, of the following type:



or in an intermediate position of the R" hydrocarbon chain, of the following type:



it being possible for this intermediate position of this epoxy functional group to be present on a cyclic part of the chain, in particular a ring having from 5 to 7 members;

- the A symbols, which are identical to or different from one another, each represent a monovalent radical ~~chosen~~ selected from -R, H, -R"-Epx and $-OR^4$, where R^4 represents a hydrogen or a linear or branched alkyl radical having from 1 to 15 carbon atoms;

- m is an integer or fractional number greater than or equal to 0~~, preferably between 5 and 200 and more preferably still between 10 and 100~~;

- n is an integer or fractional number varying from 0 to 5;

- o is an integer or fractional number greater than or equal to 1~~, preferably between 1 and 100 and more preferably still between 5 and 30~~;

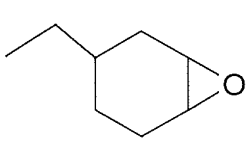
- p is an integer or fractional number greater than or equal to 2~~, preferably between 3 and 200 and more preferably still between 10 and 40~~; and

- q is an integer or fractional number greater than or equal to 0~~; preferably between 0 and 10~~.

6. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 5, ~~characterized in that~~ wherein the numbers m, o p and [[p]] q ~~are chosen so as to~~ satisfy the following condition:

- the ratio (m+n+p+q)/o ≤10~~, preferably between 2 and 8 and more preferably still between 3 and 5~~.

7. (Currently Amended) The ~~composition which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 5, ~~characterized in that~~ wherein the groups of -R"-Epx type are ~~chosen~~ selected from the ~~(III), (IV), (V), (VI) and (VII) groups as defined in claim 3~~ group consisting of:



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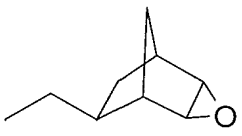

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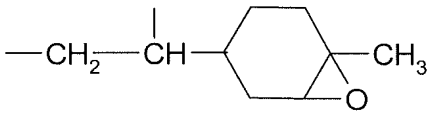
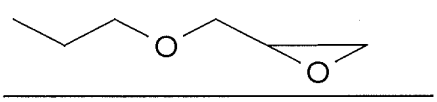


(III) (IV) (V)



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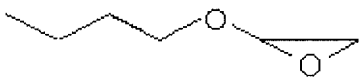


and .

(VI) (VII)

8. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 5, ~~characterized in that~~ wherein the -R'-Poa groups are ~~chosen~~ selected from: $-(CH_2)_3-O-(CH_2CH_2-O)_m-CH_3$; $-(CH_2)_2-O-(CH_2CH_2-O)_m-CH_3$; and $-(CH_2)_3-O-(CH(CH_3)-CH_2-O)_m-CH_3$ and $-(CH_2)_2-O-(CH(CH_3)-CH_2-O)_m-CH_3$, with $m \leq 14$.

9. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that~~ wherein the electrolyte salt (b) is composed:

- of a cation ~~chosen~~ selected from the group consisting of ~~the following entities:~~ metal cations, ammonium ions, amidinium ions and guanidinium ions; and
- of an anion ~~chosen~~ selected from the group consisting of ~~the following entities:~~ chloride ions, bromide ions, iodide ions, perchlorate ions, thiocyanate ions, tetrafluoroborate ions, nitrate ions, AsF_6^-, PF_6^-, stearylsulfonate ions, trifluoromethanesulfonate ions, octylsulfonate ions, dodecylbenzenesulfonate ions, $R^4SO_3^-$, $(R^4SO_2)(R^5SO_2)N^-$ and $(R^4SO_2)(R^5SO_2)(R^6SO_2)C^-$; in each formula, the R^4, R^5 and R^6 radicals are identical or different and represent electron-withdrawing groups.

10. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron~~

~~beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 9, ~~characterized in that~~ wherein the R^4, R^5 and R^6 radicals are ~~electron-withdrawing groups of~~ perfluoroaryl or perfluoroalkyl type radicals, wherein the perfluoroalkyl groups comprising from 1 to 6 carbon atoms.

11. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 9, ~~characterized in that~~ wherein the electrolyte salt (b) comprises a metal cation ~~chosen~~ selected from alkali metals and alkaline earth metals of Groups 1 and 2 of the Periodic Table ~~[Chem. & Eng. News, vol. 63, No.5, 26, of February 4 1985~~].

12. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 11, ~~characterized in that~~ wherein the metal cation is [[of]] lithium [[type]].

13. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that~~ wherein the electrolyte salt (b) is ~~chosen~~ selected from the group consisting of ~~the following compounds:~~ $LiClO_4$, $LiBF_4$, $LiPF_6$, $LiAsF_6$, $LiCF_3SO_3$, $LiN(CF_3SO_2)_2$, and $LiN(C_2F_5SO_2)_2$ and a mixture of these compounds.

14. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 11, ~~characterized in that~~ wherein the metal cation is ~~chosen from~~ a transition ~~metals~~ metal.

15. (Currently Amended) The ~~composition which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 14, ~~characterized in that~~ wherein the metal cation is ~~chosen~~ selected from the group consisting of manganese, iron, cobalt, nickel, copper, zinc, calcium and silver.

16. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that it comprises~~ further comprising an organic electrolyte (d).

17. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 16, ~~characterized in that~~ wherein the organic electrolyte (d) is ~~chosen~~ selected from the group consisting of ~~the following compounds:~~ propylene carbonate, ethylene carbonate, diethyl carbonate, dimethyl carbonate, ethyl methyl carbonate,

γ-butyrolactone, 1,3-dioxolane, dimethoxyethane, tetrahydrofuran, dimethyl sulfoxide and polyethylene glycol dimethyl ether.

18. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that~~ wherein the polymerization and/or crosslinking cationic photoinitiator (c) is an onium borate.

19. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 18, ~~characterized in that~~ wherein the onium borate ~~is chosen~~ comprises a cation ~~from those with a formula for which the cationic entity is~~ selected from:

a) onium cations of formula (IX)

$$[(R^1)_n - A - (R^2)_m]^+ \quad (IX)$$

in which formula:

_____- A represents an element from groups 15 to 17, such as, for example: I, S, Se, P or N;

_____- R^1 represents a C_6-C_{20} carbocyclic or heterocyclic aryl radical, it being possible for said heterocyclic radical to comprise nitrogen or sulfur as heteroelements;

_____- R^2 represents R^1 or a linear or branched C_1-C_{30} alkyl or those radical; said R^1 and R^2 radicals optionally being substituted by a C_1-C_{25} alkoxy, C_1-C_{25} alkyl, nitro, chloro, bromo, cyano, carboxyl, ester or mercapto group;

_____- n is an integer ranging from 1 to v + 1, v being the valency of the element A; and

_____- m is an integer ranging from 0 to v - 1, with n + m = v + 1,

b) organometallic cations of formula (X)

$$(L^1L^2L^3M)^{q+}$$

in which formula:

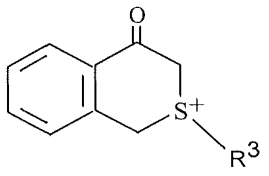
- M represents a metal from Groups 4 to 10, in particular iron, manganese, chromium or cobalt;

- L^1 represents a ligand bonded to the metal M via π electrons, which ligand is chosen from η^3-alkyl, η^5-cyclopentadienyl and η^7-cycloheptatrienyl ligands and η^6-aromatic compounds chosen from η^6-benzene ligands which are optionally substituted and compounds having from 2 to 4 condensed rings, each ring being capable of contributing via 3 to 8 π electrons to the valence layer of the metal M;

- L^2 represents a ligand bonded to the metal M via π electrons, which ligand is chosen from η^7-cycloheptatrienyl ligands and η^6-aromatic compounds chosen from η^6-benzene ligands which are optionally substituted and compounds having from 2 to 4 condensed rings, each ring being capable of contributing via 6 or 7 π electrons to the valence layer of the metal M; and

- L^3 represents from 0 to 3 identical or different ligands bonded to the metal M via σ electrons, which ligand(s) is (are) chosen from CO and NO_2^+; the total electronic charge q of the complex to which L^1, L^2 and L^3 and the ionic charge of the metal M contribute being positive and equal to 1 or 2;

c) oxoisothiochromanium cations having the formula (XI)



(XI)

where the R^3 radical represents a linear or branched C_1-C_{20} alkyl radical, and

d) the organometallic cations of formula (XIII)

$$(L^1L^2L^3M)^{q+} \quad \text{(XIII)}$$

in which formula:

_____- M represents a metal from Groups 4 to 10;

_____- L^1 and L^2 each represent a ligand bonded to the metal M via π electrons,

_____- L^3 represents from 0 to 3 identical or different ligands bonded to the metal M via σ electrons, which ligand(s) is (are) chosen from CO and NO_2^+ ; and

_____- the total electronic charge q being positive and equal to 1 or 2.

20. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in

claim 18, ~~characterized in that~~ wherein the polymerization and/or crosslinking cationic photoinitiator (c) of borate type ~~is chosen~~ comprises an anion ~~from those with a formula for which the borate anionic entity has~~ having the formula (XII)

$$[BX_aR_b]^- \qquad \text{(XII)}$$

in which formula:

- a and b are integers ranging from 0 to 4 with a + b = 4;
- the X symbols represent a ~~halogen~~ chlorine atom or a fluorine atom ~~(chlorine, fluorine)~~ ~~with~~ when a = 0 to 3 and an OH functional group ~~(with~~ when a = 0 to 2),
- the R symbols are identical or different and represent:
  - a phenyl radical substituted by at least one electron-withdrawing group ~~chosen~~ selected from CF_3, NO_2 [[or]] and CN or by at least 2 fluorine atoms, this being the case when the cationic entity is an onium of an element from Groups 15 to 17,
  - a phenyl radical substituted by at least one electron-withdrawing element or at least one electron-withdrawing group ~~chosen~~ selected from a fluorine atom, CF_3, NO_2 [[or]] and CN, this being the case when the cationic entity is an organometallic complex of an element from the Groups 4 to 10, and/or
  - an aryl radical comprising at least two aromatic rings which is optionally substituted by at least one electron-withdrawing element or at least one electron-withdrawing group ~~chosen~~ selected from a fluorine atom, CF_3, NO_2 or CN, whatever the cationic entity.

21. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron~~

~~beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 20, ~~characterized in that~~ wherein the anionic entity of the borate is ~~chosen~~ selected from the group consisting of:

$[B(C_6F_5)4]^-$, $B(C_6H_4CF_3)4]^-$, $[B(C_6H_4CF_3)4]^-$,

$[(C_6F_5)_2BF_2]^-$, $[C_6F_5BF_3]^-$, $[B(C_6H_3F_2)4]^-$, and

$[B(C_6F_4OCF_3)4]^-$.

22. (Currently Amended) The composition which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte as claimed in claim 19, ~~characterized in that~~ wherein the cationic entity is ~~chosen~~ selected from the group consisting of:

$[(\Phi)_2I]^+$, $[C_8H_{17}\text{-O-}\Phi\text{-I-}\Phi]^+$, $[(\Phi\text{-}CH_3)_2I]^+$,

$[C_{12}H_{25}\text{-}\Phi\text{-I-}\Phi]^+$, $[(C_8H_{17}\text{-O-}\Phi)_2I]^+$, $[C_8H_{17}\text{-O-}\Phi\text{- I-}\Phi]^+$,

$[(\Phi)_3S]^+$, $[(\Phi)_2\text{-S-}\Phi\text{-O-}C_8H_{17}]^+$, $[CH_3\text{-}\Phi\text{-I-}\Phi\text{-}CH(CH_3)_2]^+$,

$[\Phi\text{-S-}\Phi\text{-S-}(\Phi)_2]^+$, $[(C_{12}H_{25}\text{-}\Phi)_2I]^+$, $[CH_3\text{-}\Phi\text{-I-}\Phi\text{-}OC_2H_5]^+$,

(η5-cyclopentadienyl)(η6-toluene)Fe^+,

(η5-cyclopentadienyl)(η6-1-methylnaphthalene)Fe^+, and

(η5-cyclopentadienyl)(η6-cumene)Fe^+.

23. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron~~

~~beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 18, ~~characterized in that~~ wherein the polymerization and/or crosslinking cationic photoinitiator (c) of borate type is ~~chosen~~ selected from the group consisting of:

$[(\Phi)_2\ I]^+[B(C_6F_5)_4]^-$; $[(C_8H_{17})\text{-}O\text{-}\Phi\text{-}I\text{-}\Phi]^+[B(C_6F_5)_4]^-$,

$[C_{12}H_{25}\text{-}\Phi\text{-}I\text{-}\Phi]^+[B(C_6F_5)_4]^-$; $[(C_8H_{17}\text{-}O\text{-}\Phi)_2I]^+[B(C_6F_5)_4]^-$,

$[(C_8H_{17})\text{-}O\text{-}\Phi\text{-}I\text{-}\Phi]^+[B(C_6F_5)_4]^-$; $[(\Phi)_3S]^+[B(C_6F_5)_4]^-$,

$[(\Phi)_2S\text{-}\Phi\text{-}O\text{-}C_8H_{17}]^+[B(C_6H_4CF_3)_4]^-$; $[(C_{12}H_{25}\text{-}\Phi)_2I]^+[B\ (C_6F_5)_4]^-$,

$[(\Phi)_3\ S]^+[B(C_6F_4OCF_3)_4]^-$; $[(\Phi\text{-}CH_3)_2I]^+[B(C_6F_5)_4]^-$,

$[(\Phi\text{-}CH_3)_2I]^+[B(C_6F_4OCF_3)_4]^-$; $[CH_3\text{-}\Phi\text{-}I\text{-}\Phi\text{-}CH(CH_3)_2]^+[B(C_6F_5)_4]^-$,

$(\eta^5\text{-cyclopentadienyl})(\eta^6\text{-toluene})Fe^+[B(C_6F_5)_4]^-$,

$(\eta^5\text{-cyclopentadienyl})(\eta^6\text{-1-methylnaphthalene})Fe^+[B(C_6F_5)_4]^-$, and

$(\eta^5\text{-cyclopentadienyl})\ (\eta^6\text{-cumene})Fe^+[B(C_6F_5)_4]^-$,

and their mixture.

24. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 1, ~~characterized in that~~ wherein it comprises at least one aromatic hydrocarbon photosensitizer (e) comprising one or more substituted or unsubstituted aromatic rings having a residual light absorption of between 200 and 500 nm.

25. (Currently Amended) The composition ~~which can be polymerized and/or crosslinked under irradiation, preferably actinic irradiation and/or by (an) electron beam(s), by the cationic and/or radical route, for a battery electrolyte~~ as claimed in claim 24, ~~characterized in that~~ wherein the photosensitizer (e) is ~~chosen~~ selected from the group consisting of:

4,4'-dimethoxybenzoin, 2,4-diethylthioxanthone,

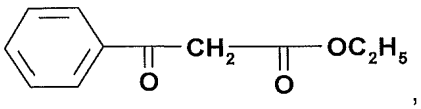
2-ethylanthraquinone, 2-methylanthraquinone,

1,8-dihydroxyanthraquinone, dibenzoyl peroxide,

2,2-dimethoxy-2-phenylacetophenone, benzoin,

2-hydroxy-2-methylpropiophenone, benzaldehyde,

4-(2-hydroxyethoxy)phenyl (2-hydroxy-2-methylpropyl) ketone,

benzoylacetone, 

,

2-isopropylthioxanthone, 1-chloro-4-propoxythioxanthone, and

4-isopropylthioxanthone

and ~~their mixture~~ mixtures thereof.

26. (Currently Amended) A polymer electrolyte for a battery obtained by polymerization and/or crosslinking by the cationic and/or radical route of a composition as claimed in claim 1.

27. (Currently Amended) A polymer battery comprising a polymer electrolyte as claimed in claim 26 positioned between an anode and a cathode.

28. (Currently Amended) The polymer battery as claimed in claim 27, ~~characterized in that~~ wherein at least one of the constituents of the cathode is ~~chosen~~ selected from the group consisting of the following compounds: lithium metal, lithium alloys, inorganic materials comprising lithium insertions and carbonate materials comprising lithium insertions.